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FEE TRANSMITTAL for FY 2005

Patent fees are subject to annual revision.

Complete if Known

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Filing Date	December 17, 2001
First Named Inventor	Wah Yiu Kwong
Examiner Name	Jamal, Alexander
Art Unit	2614
Attorney Docket No.	42390P11691

☐ Applicant claims small entity status. See 37 CFR 1.27.

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METHOD OF PAYMENT (check all that apply)

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FEE CALCULATION

Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
1051	130	2051	65	Surcharge - late filing fee or oath	
1052	50	2052	25	Surcharge - late provisional filing fee or cover sheet.	
2053	130	2053	130	Non-English specification	
1251	120	2251	60	Extension for reply within first month	
1252	450	2252	225	Extension for reply within second month	
1253	1,020	2253	510	Extension for reply within third month	
1254	1,590	2254	795	Extension for reply within fourth month	
1255	2,160	2255	1,080	Extension for reply within fifth month	
1401	500	2401	250	Notice of Appeal	
1402	500	2402	250	Filing a brief in support of an appeal	500.00
1403	1,000	2403	500	Request for oral hearing	
1451	1,510	2451	1,510	Petition to institute a public use proceeding	
1460	130	2460	130	Petitions to the Commissioner	
1807	50	1807	50	Processing fee under 37 CFR 1.17(q)	
1806	180	1806	180	Submission of Information Disclosure Stmt	
1809	790	1809	395	Filing a submission after final rejection (37 CFR § 1.129(a))	
1810	790	2810	395	For each additional invention to be examined (37 CFR § 1.129(b))	
Other fee (specify) _____					
				SUBTOTAL (2)	(500.00)

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Patent

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re Application of:

Kwong

Application No.: 10/023,018

Filed: December 17, 2001

For: An Antenna on a Display

) Examiner: Jamal, Alexander

) Art Group: 2614

Mail Stop Appeal Brief – Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPEAL BRIEF
IN SUPPORT OF APPELLANT’S APPEAL
TO THE BOARD OF PATENT APPEALS AND INTERFERENCES

Sir:

Applicant (hereinafter “Appellant”) hereby submits this Brief in support of its appeal from a final decision by the Examiner, mailed July 13, 2006, in the above-captioned case. Appellant respectfully requests consideration of this appeal by the Board of Patent Appeals and Interferences (hereinafter “Board”) for allowance of the above-captioned patent application.

An oral hearing is not desired.

12/01/2006 BABRAHA1 00000044 10023018

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I. REAL PARTY IN INTEREST

The invention is assigned to Intel Corporation, 2200 Mission College Boulevard, Santa Clara, California 95052, USA.

II. RELATED APPEALS AND INTERFERENCES

To the best of Appellant's knowledge, there are no appeals or interferences related to the present appeal that will directly affect, be directly affected by, or have a bearing on the Board's decision.

III. STATUS OF THE CLAIMS

Claims 1-3, 5-13 and 16-27 are currently pending in the above-referenced application. No claims have been allowed. Claims 1-3, 5-13 and 16-27 are the subject of this appeal.

IV. STATUS OF AMENDMENTS

In response to a Final Office Action, mailed on July 13, 2006, rejecting claims 11-3, 5-13 and 16-27, Appellant filed a Response After Final under 37 C.F.R. §116 on September 13, 2006. An Advisory Action was mailed on September 28, 2006. A Notice of Appeal was filed on October 3, 2006.

A copy of all claims on appeal is attached hereto as an Appendix of Claims.

V. SUMMARY OF CLAIMED SUBJECT MATTER

According to an embodiment claimed in claim 1, a handheld computing device is disclosed. The handheld computing device a housing, a display mounted on the housing; and an antenna located on a top glass layer of the display. **See Figure 1 and Specification at paragraphs [0011] to [0014].**

In another embodiment claimed in claim 12, a method is disclosed including mounting an antenna on a top glass layer of a display of a computing apparatus. **See Figure 1 and Specification at paragraphs [0011] to [0014].**

In a further embodiment, a handheld computing device is claimed in claim 21 including a display (**See Figure 1 and Specification at paragraph [0013]**), a radio frequency (RF) transceiver mounted on the display (**See Figure 3 and Specification at paragraph [0031]**) and an antenna, coupled to the RF transceiver, mounted on a top glass layer of the display. (**See Figure 1 and Specification at paragraph [0014]**).

VI. GROUND OF REJECTION TO BE REVIEWED ON APPEAL

A. Claims 1, 5, 12, 16, 10, 11, 19, and 20 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Katsura* (U.S. Patent No. 6,628,962) (hereinafter “*Katsura*”) in view of *Wood et al.* (U.S. Patent No. 5,754,159) (hereinafter “*Wood*”).

B. Claims 6, 7, 17, and 18, 21, 26, and 27 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Katsura* in view of *Wood* and further in view of *Carson et al.* (U.S. Patent No. 5,705,855) (hereinafter “*Carson*”).

C. Claims 2, 3, 13, and 14 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Katsura* in view of *Wood*, and further in view of *Kuroe et al.* (U.S. Patent No. 6,028,748) (hereinafter “*Kuroe*”).

D. Claims 8 and 9 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Katsura* in view of *Wood* and further in view of *Narayanaswamy et al.* (U.S. Patent No. 5,905,467) (hereinafter “*Narayanaswamy*”).

E. Claims 22-25 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Katsura* in view of *Wood* in view of *Carson*, and further in view of *Zuckerman* (U.S. Patent No. 5,802,463) (hereinafter “*Zuckerman*”).

Grounds C, D and E rely on grounds A and B. A separate review of C, D and E is not sought by this appeal.

No claims were indicated as allowable.

VII. ARGUMENTS

1. THE PENDING CLAIMS WERE IMPROPERLY REJECTED UNDER 35 U.S.C. § 103(A) BECAUSE THE COMBINATION OF *KATSURA*, AND *WOOD* DOES NOT DISCLOSE OR SUGGEST EACH AND EVERY FEATURE OF THE PENDING CLAIMS

Appellant respectfully submits that the combination of *Katsura* and *Wood* fails to disclose or suggest the claimed invention for the reasons set forth below. As the Honorable Board is well aware, in order to establish a *prima facie* case of obviousness:

First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations." (Emphasis added). *In re Vaech*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). Manual of Patent Examining Procedure (MPEP), 8th Edition, Revision 2, May 2004, §2143.

(A) Claims 1, 5, 10, 11, 12, 16, 19 and 20 were improperly rejected because the combination of *Katsura* and *Wood* does not disclose or suggest an antenna located on a top glass layer of a display

Claims 1, 5, 12, 10, 11, 16, 19 and are not obvious in view of the combination of *Katsura* and *Wood* under 35 U.S.C. § 103(a). For example, Appellant's claim 1 recites:

A handheld computing device comprising:
a housing;
a display mounted on the housing; and
an antenna located on a top glass layer of the display.

Appellant's claim 12 recites:

A method comprising, mounting an antenna on a top glass layer of a display of a computing apparatus.

Katsura discloses a PDA having a front surface body and a back surface body with both connected by a hinge. Thus, an end of the front surface of the body is maintained in free rotation by the back surface of the body and may be maintained in an optional stationary position. An antenna is mounted on the inside of the front surface of the front surface body. Specifically, the antenna is a wire antenna mounted on the outer rim of the display screen 2 and is formed by printing, deposition or transferal. See *Katsura* at Figures 4 and 5.

Wood discloses an integrated liquid crystal display and backlight system for generating video images for a portable computer comprising a top glass, a bottom glass and a thin film transistor and liquid crystal layer disposed therebetween, a diffuser bonded to the bottom glass on the side opposite the top glass, a substrate bonded to the diffuser opposite the bottom glass having an array of semispherical cavities each having an aluminized surface, a phosphor layer coating the aluminized surfaces, an array of indium tin oxide conductors electrically connected to the aluminized surfaces and disposed within the cavities, and a volume of mercury gas filling the cavities such that when a voltage is established between the aluminized surfaces and the indium tin oxide conductors, the phosphor becomes excited and produces backlight for the liquid crystal display system. See *Wood* at Abstract.

Appellant submits that any combination of *Katsura* and *Wood* fails to disclose or suggest an antenna located on a *top glass layer of a display*. Instead, *Katsura* discloses an antenna mounted on at the body of the PDA, which surrounds an outer rim of a display screen. As a result, the antenna in *Katsura* is not mounted on a top glass layer of the

display. Moreover, *Wood* discloses an integrated liquid crystal display and backlight system for generating video images for a portable computer. However, there is no disclosure or suggestion in *Wood* of an antenna located on a top glass layer of a display.

In the Final Office Action, the Examiner reads “‘provided on the outer rim of the display screen’ as being mounted on the top layer of the display.” See Final Office Action at page 7, paragraph 10. Further, the Examiner “notes that *Wood* is used to teach that the display may be made of glass.” *Id.* Appellant respectfully submits that *Katsura* already discloses a display screen 2, ostensibly made of some sort of glass material. However, the antenna in *Katsura* is not mounted on the display screen 2, but instead on a communication body 14 that surrounds the glass material of the display screen. Even if the “glass” display from *Wood* were to be implemented in *Katsura*, it would replace the display screen 2 that would continue to be surrounded by the communication body 14, where *Katsura* discloses the antenna being mounted. Thus, the combination of *Wood* with *Katsura* would continue to fail to disclose the antenna being located on a top glass layer of a display.

Because both *Katsura* and *Wood* fail to disclose or suggest an antenna located on a top glass layer of a display, any combination of *Katsura* and *Wood* would also fail to disclose or suggest an antenna located on a top glass layer of a display. Therefore, *Katsura* and *Wood*, when combined, fail to teach or suggest all of the claim limitations recited in the present application.

Consequently, the Examiner has not established a prima facie case of obviousness, and the Examiner’s rejection of claims 1 and 12 under 35 U.S.C. §103(a) as being obvious in view of *Katsura* and *Wood*.

Claims 5, 10 and 11 depend from claim 1, and 16, 19 and 20 depend from claim 12. Given that dependent claims necessarily include the limitations of the claims from which they depend, Appellant submits that the invention as claimed in claims 2, 3, 5-11, 13 and 16-20 are similarly patentable over *Katsura* in view of *Wood*.

For the forgoing reasons, Appellant submits that the Examiner has failed to search and find a printed publication or patent that discloses the claimed invention as set forth in MPEP § 706.02(a).

Thus, the Examiner erred in rejecting claims 1, 5, 10, 11, 12, 16, 19 and 20 under 35 U.S.C. § 103(a).

2. THE PENDING CLAIMS WERE IMPROPERLY REJECTED UNDER 35 U.S.C. § 103(A) BECAUSE THE COMBINATION OF *KATSURA*, *WOOD* AND *CARSON* DOES NOT DISCLOSE OR SUGGEST EACH AND EVERY FEATURE OF THE PENDING CLAIMS

Appellant respectfully submits that the combination of *Katsura*, *Wood* and *Carson* fails to disclose or suggest the claimed invention for the reasons set forth below.

(A) Claims 6, 7, 17, and 18, 21, 26, and 27 were improperly rejected because the combination of *Katsura*, *Wood* and *Carson* does not disclose or suggest an antenna located on a top glass layer of a display

Claims 6, 7, 17, and 18, 21, 26, and 27 and are not obvious in view of the combination of *Katsura*, *Wood* and *Carson* under 35 U.S.C. § 103(a). Claims 6 and 17 and 17 and 18 depend from independent claims 1 and 12, respectively, and necessarily include each of the features. Further, Appellant's claim 21 recites:

A handheld computing device comprising:
a display;
a radio frequency (RF) transceiver mounted on the display; and
an antenna, coupled to the RF transceiver, mounted on a top glass layer of the display.

As discussed above, the combination of *Katsura* and *Wood* does not disclose or suggest each and every element of Appellant's independent claims 1, 12 and 21. For example, *Katsura* and *Wood* each fail to disclose or suggest an antenna located on a top glass layer of a display.

Carson discloses an integrated circuit for attaching to a glass substrate that includes an integrated circuit die having circuitry formed thereon. The integrated circuit

has cavities formed in a first surface, and metal layers formed adjacent to the integrated circuit die and within the cavities are coupled to the circuitry. Conductive bumps, which are formed from a material that adheres to glass, are deposited within the cavities and electrically coupled to the circuitry via the metal layers. See *Carson* at Abstract.

Nevertheless, *Carson* does not disclose or suggest an antenna mounted on a top layer of a display. Because *Katsura*, *Wood* and *Carson* individually do not disclose or suggest an antenna mounted on a top layer of a display, any combination of *Katsura*, *Wood* and *Carson* also would not disclose or suggest such a feature.

Since the combination of *Katsura*, *Wood* and *Carson* fails to disclose all of the elements required by Appellant's claims, the combination of *Katsura*, *Wood* and *Carson* fails to teach or suggest each and every element of Appellant's invention as embodied in the claims.

Claims 22-27 depend from claim 21. Given that dependent claims necessarily include the limitations of the claims from which they depend, Appellant submits that the invention as claimed in claims 22-27 are similarly patentable over *Katsura* and *Wood* in view of *Carson*.

Consequently, the Examiner has not established a prima facie case of obviousness, and the Examiner's rejection of claims 6, 7, 17, and 18, 21, 26, and 27 under 35 U.S.C. §103(a) as being obvious over the combination of *Katsura*, *Wood* and *Carson* should be reversed.

VIII. CONCLUSION


Appellant respectfully submits that all the appealed claims in this application are patentable and request that the Board of Patent Appeals and Interferences overrule the Examiner and direct allowance of the rejected claims.

This brief is submitted with a check for \$500.00 to cover the appeal fee for one other than a small entity as specified in 37 C.F.R. § 1.17(c). Please charge any shortages and credit any overpayment to out Deposit Account No. 02-2666.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN

Date: November 28, 2006



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FIRST CLASS CERTIFICATE OF MAILING

I hereby certify that I am causing the above-referenced correspondence to be deposited with the United States Postal Service as first class mail with sufficient postage on the date indicated below and that this paper or fee has been addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450

Date of Deposit: November 28, 2006

Name of Person Mailing Correspondence: Shannon Serrano

Shannon Serrano 11/28/06
Signature Date

IX. APPENDIX OF CLAIMS (37 C.F.R. § 1.192(c)(9))



1. A handheld computing device comprising:
a housing;
a display mounted on the housing; and
an antenna located on a top glass layer of the display.
2. The device of claim 1 wherein the antenna is etched on the display.
3. The device of claim 1 wherein the antenna is sputter etched on the display.
5. The device of claim 1 further comprising an amplification circuit coupled to the antenna.
6. The device of claim 5 wherein the amplification circuit is mounted on the display.
7. The device of claim 6 wherein the amplification circuit is mounted on the display using chip on glass technology.
8. The device of claim 1 wherein the antenna is a center-fed dipole antenna.
9. The device of claim 1 wherein the antenna is an end-fed dipole antenna.
10. The device of claim 1 wherein the handheld computing device is a personal computer (PC) tablet.
11. The device of claim 1 wherein the handheld computing device is a personal digital assistant (PDA).
12. A method comprising, mounting an antenna on a top glass layer of a display of a

computing apparatus.

13. The method of claim 12 wherein mounting the antenna further comprises etching the antenna on the display.

16. The method of claim 1 further comprising coupling an amplification circuit to the antenna.

17. The method of claim 16 wherein coupling the amplification circuit to the antenna further comprises mounting the amplification circuit on the display.

18. The method of claim 17 wherein the amplification circuit is mounted on the display using chip on glass technology.

19. The method of claim 12 wherein the computing apparatus is a personal computer (PC) tablet.

20. The method of claim 12 wherein the computing apparatus is a personal digital assistant (PDA).

21. A handheld computing device comprising:
a display;
a radio frequency (RF) transceiver mounted on the display; and
an antenna, coupled to the RF transceiver, mounted on a top glass layer of the display.

22. The device of claim 21 further comprising a network controller coupled to the RF transceiver.

23. The device of claim 22 wherein the network controller further comprises:
media access layer (MAC) digital signal processor (DSP); and
a baseband DSP coupled to the MAC DSP.
24. The device of claim 23 wherein the baseband DSP comprises:
a baseband state machine;
a coding element coupled to the baseband state machine; and
a modulation element coupled to the coding element.
25. The device of claim 24 wherein the baseband DSP further comprises:
a digital to analog converter (DAC) DSP coupled to the baseband DSP; and
an analog to digital converter (ADC) DSP coupled to the baseband DSP.
26. The device of claim 21 wherein the handheld computing device is a personal computer (PC) tablet.
27. The device of claim 21 wherein the handheld computing device is a personal digital assistant (PDA).

X. EVIDENCE APPENDIX

None.

XI. RELATED PROCEEDINGS APPENDIX

None.